Hanford's FY 2001 Draft Budget Help Influence Priorities

Jay Augustenborg, Acting Assistant Manager for Waste Management

U.S. Department of Energy, Richland Operations Office

Spent Nuclear Fuel Project

Mission and Scope

- **The Spent Nuclear Fuels Project will move spent nuclear fuel from wet storage in the K-East and K-West basins near the Columbia river to safe, dry, interim storage at the Canister Storage Building in the 200 Area Central Plateau while other Hanford SNF is consolidated outside at the Interim Storage Area pending final disposition.**

  This project includes:

  - **removing and repackaging spent nuclear fuel into multi-canister overpacks,**
  - **fuel drying, transporting and staging,**
  - **removing sludge and debris from the K-basins for appropriate disposition, and**
  - **treating and conditioning the water in the basins**

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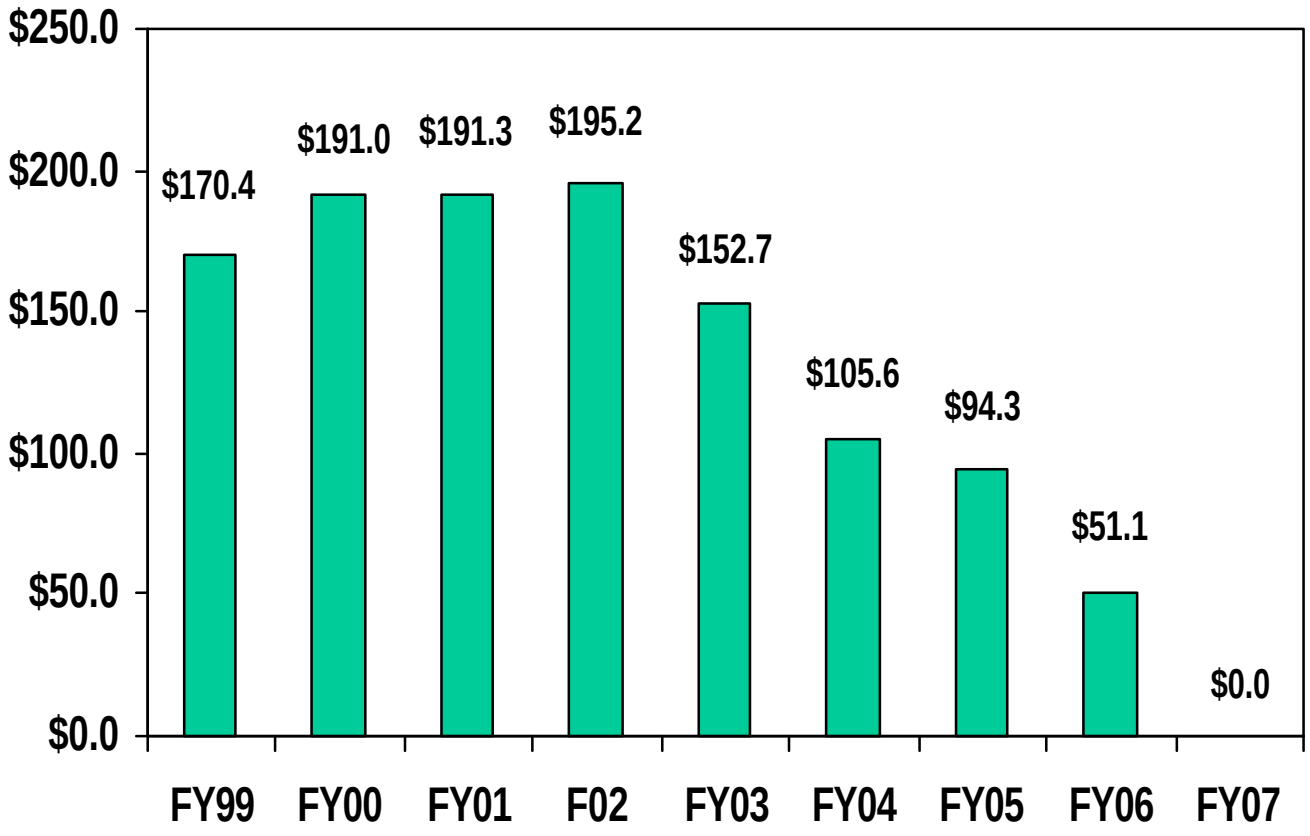
Spent Nuclear Fuel Project
Funding Profile ($ in millions)



FY 99 Allocation; FY 00 Request; FY01 Target/critical Needs

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SNF Function Time Line

PBS RL-WM01 - Spent Nuclear Fuel Project

Min-Safe

UAS# 497 Maintain Safe & Compliant SNF Storage in K Basins
32,749 | 34,608 | 35,171 | 35,848 | 27,491

UAS# 674 Maint Safe & Compl Sldge, Dbrs & Wtr in K Basins
15,145 | 6,939

From UAS 505

UAS# 676 Operate & Maintain 200 Area ISA
249 | 367 | 392 | 414

To UAS 678/679 (WM02)

Essential Services

UAS# 498;499; 792;793 Program Management and Other Allocations
48,399 | 43,414 | 44,346 | 38,169 | 34,478 | 29,947 | 29,512 | 10,704

Urgent Risk (Fuel Removal)

UAS# 500 Design/ Modify/ Construct for Fuel Movement
59,991 | 44,912 | 31,766 | 34,390 | 2,539 | 203

To UAS 678/679 (WM02)

UAS# 502 Operate SNF Removal Systems
19,969 | 39,889 | 53,526 | 52,963 | 51,815 | 16,379 | 2,942

UAS#501 Des/Cnst CSB
23,949 | 13,418

UAS# 503 Receive Defense Production Reactor SNF
381 | 8,329 | 12,736 | 12,864 | 11,766 | 4,325

To UAS 678/679 (WM02)

Urgent Risk (Sludge Removal)

UAS# 504 Design/ Modify/ Construct Sludge Removal System
3,524 | 3,287 | 7,695 | 15,265 | 18,842 | 7,273 | 213

UAS# 675 Operate & Maint Sludge Removal Sys
594 | 961 | 1,174 | 7,177

Urgent Risk (Mortgage Reduction)

UAS# 506 Implement Site Wide Interim Storage 200 Area
1,667 | 2,887 | 5,848 | 3,945 | 802 | 2,990

To UAS 678/679 (WM02)

UAS# 505 Design/ Construct 200 Area Interim Storage
349 | 211

To UAS 676

UAS# 677 Deactivation 100K Area Facilities
770 | 3,595 | 27,729 | 39,231 | 36,253

	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006
Subtotal WM01	190,978	190,955	191,337	195,174	152,681	105,579	86,013	46,957

PBS RL-WM02 - Continuing CSB Operations (Min-safe)

From WM01

UAS # 678/679
8,318 | 4,100

	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006
Total SNF Mission	$ 190,978	$ 190,955	$ 191,337	$ 195,174	$ 152,681	$ 105,579	$ 94,331	$ 51,057

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Project Assumptions for FY2001

- **Cold Vacuum Drying (CVD) facility will be in full operations**
  - **Prepares fuel for interim, dry storage**
- **Canister Storage Building will be ready to receive conditioned fuel from CVDF**
- **Adequate number of Multi Canister Overpacks available to support fuel removal**
- **K West Fuel Retrieval System 100% complete and operational**

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Spent Nuclear Fuel Project
Urgent Needs and Project Priorities

- **Maintain safe and compliant interim, wet storage of the Fuel in the K Basins**
- **Reduce Urgent Risks**
  - **Remove spent nuclear fuel from the K basins and transition all Hanford SNF to low-cost, safe, interim, dry storage**
- **Complete Sludge Disposition - K Basins**
- **Reduce Out year Expenditures -**
  (Compares maintenance and operating cost of wet vs. dry storage approx. annual savings $32.3M)

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Workscope Comparison

	FY 99	FY 00	FY01
Complete CSB FSAR Implementation	✓	Complete	
Placement of Canister Storage Bldg. (CSB) Storage Tubes in vault	✓	Complete	
MCO fabrication, delivery, installation	✓	✓	✓
K East Fuel Retrieval System & Integrated Water Treatment System Construction	✓	✓	Complete
Begin K West Basin Fuel Retrieval	N/A	N/A	✓

✓ - Fully Funded

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Workscope Comparison (cont.)

	FY 99	FY 00	FY01
Start K West Canister Cleaning Operations	N/A	N/A	✓
Complete Cold Vacuum Drying Construction & Accept. (4 Bays)	50% Complete	100% Complete	
Operate Cold Vacuum Drying Facility	N/A	N/A	✓
Complete Canister Storage Building Construction	✓	Complete	
Operate Canister Storage Building	N/A	N/A	✓
Operation of 200A Interim Storage Area	N/A	✓	✓

✓ - Fully Funded

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Breakthrough Opportunity

Description

Approximately 70 cubic meters of sludges are contained within the K Basins. Disposal of these sludges will be required to fully disposition the facility. The sludges contain mixed fission products, PCBs and unreacted fuel pieces, and will likely be transuranic in nature. This opportunity involves the investigation of alternative pathways for disposal of the sludges. Regulatory alternatives for dealing with the PCB issue are part of this opportunity.

Payback

Potential Savings to baseline of up to 15M

Investment

Funding is within baseline

Needs Regulators/Site DOE Policy Support

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FY 2001 Target Impacts

- **Project's current budget estimate is fully funded**

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Background Information

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Spent Nuclear Fuel

Major Accomplishments to Date

- **Significant Advancement in Management Structure and Processes**
- **Critical Analysis completed in FY 98**
- **Completed defensible and Integrated Project Baseline**
- **Successfully negotiated Tri-Party Agreement Milestones**
- **Cold Vacuum Drying Process Equipment Procurements placed**

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Major Accomplishments to Date Cont.

- **Placement of 15% of CSB Storage tubes in the vault**
- **Fuel Retrieval System (FRS) & Integrated Water Treatment System Construction initiated**
- **Canister Storage Building 79.4% complete**
- **Cold Vacuum Drying 61.8% complete**

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Planned Accomplishments for FY 2000

- **Complete Cold Vacuum Drying Facility Construction and acceptance of all 4 bays**
- **Complete Canister Storage Building Construction with the installation of tube shield plugs and impact absorbers**
- **Complete DOE Operational Readiness Review**

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Planned Accomplishments in FY 2001

- **Complete K East Fuel Retrieval System & Integrated Water Treatment System Construction**
- **Begin Removal of MCOs from K West Basin**
- **Start K West - Canister cleaning Operations**

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